



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/452,149      | 12/01/1999  | YOKO IKEDA           | 501.37892X00        | 9942             |

20457 7590 08/27/2003

ANTONELLI, TERRY, STOUT & KRAUS, LLP  
1300 NORTH SEVENTEENTH STREET  
SUITE 1800  
ARLINGTON, VA 22209-9889

EXAMINER

KIBLER, VIRGINIA M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2623

DATE MAILED: 08/27/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/452,149

Applicant(s)

IKEDA ET AL.

Examiner

Virginia M Kibler

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 2623

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on June 27, 2003 has been entered. Claims 1-11 remain pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 7, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aloni et al. (6,360,005) in view of Steffan et al. (5,999,003).

Regarding claim 1, Aloni et al. ("Aloni") discloses an inspecting system comprising an analyzing unit including a scanner (Figure 1, element 10) or an "image detection device." Aloni also discloses a diagnostic memory/processor or a "storage means" for storing detected images produced by the image detection device (Col. 15, lines 11-16). Aloni discloses providing a display (Figure 13, element 256) with a first area in which to display the images stored in the storage means (Col. 27, lines 5-9). Aloni further discloses allowing the user to classify the images into defect-classification areas (Col. 27, lines 10-17), thereby providing a means for moving to move an unclassified image to a classified area. Aloni further discloses displaying the classified defect images in order to allow the operator to review and amend the defect classification (Col. 27, lines 10-13), thereby allowing the operator to confirm the correctness of

Art Unit: 2623

his criterion. Aloni does not expressly state displaying the second areas on the display with the first area. However, Steffan et al. ("Steffan") teaches that it is known to include a display means having a screen with a first area for displaying a plurality of the detected images (206, 208, 210, 212) and a plurality of bins (214, 216, 218, 220) or "second areas" for classifying the detected images. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the display disclosed by Aloni to include displaying the classified images in a plurality of second areas, as taught by Steffan, because it will provide enhanced visualization of classified defects.

Regarding claim 2, the arguments analogous to those presented above for claim 1 are applicable to claim 2.

Regarding claim 4, Aloni et al. ("Aloni") discloses an inspecting system comprising an analyzing unit including a scanner (Figure 1, element 10) or an "image detection device" to produce images of semiconductor manufacturing defects (Abstract, lines 1 and 2). Aloni discloses providing a display (Figure 13, element 256) with a sorting display area in which to display the images with unclassified semiconductor manufacturing defects (Col. 27, lines 5-9). Aloni further discloses allowing the user to classify the images into defect-classification areas (Col. 27, lines 10-17), thereby providing a user-manipulated moving unit to move an unclassified image to a classified area. Aloni further discloses displaying the classified defect images in order to allow the operator to review and amend the defect classification (Col. 27, lines 10-13), thereby allowing the operator to confirm the correctness of his criterion. Aloni does not expressly state displaying the defect-classification areas on the display with the sorting display area. However, Steffan et al. ("Steffan") teaches that it is known to include a display means

Art Unit: 2623

having a screen with a first area for displaying a plurality of the detected images (206, 208, 210, 212) and a plurality of bins (214, 216, 218, 220) or “second areas” for classifying the detected images. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the display disclosed by Aloni to include displaying the classified images in a plurality of second areas, as taught by Steffan, in order to visualize the classification.

Regarding claim 8, the arguments analogous to those presented above for claim 4 are applicable to claim 8. Note that Aloni discloses a method as well as a system (Title).

Regarding claim 7, Aloni discloses a memory to store predetermined information for the images including defect classification information (Col. 26, lines 59-67) and an adjuster unit to adjust the defect-classification information for the image to match the selected defect classification area (Col. 27, lines 1-20).

Regarding claim 11, the arguments analogous to those presented above for claim 7 are applicable to claim 11.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aloni et al. (6,360,005) in view of Steffan et al. (5,999,003) in further view of Nara et al. (6,421,122).

Regarding claim 3, the arguments analogous to those presented above for claim 1 are applicable to claim 3. Note Aloni discloses a defect detection system for inspecting electronic devices (Abstract, lines 1-3). Aloni further discloses providing information to the analyzing unit concerning images in the second areas of the screen (Col. 26, lines 44-58). Aloni et al. (“Aloni”) does not recognize a method of manufacturing. However, Nara et al. (“Nara”) teaches that an inspection apparatus can be applied to a manufacturing process or “method” of a semiconductor device (Col. 37, lines 53-57). Nara teaches a method of manufacturing an

Art Unit: 2623

electronic device wherein use is made of a manufacturing apparatus for processing a workpiece to form an electronic device (Col. 42, lines 30-32). Nara also teaches controlling the production line using information obtained from said analyzing unit to process the workpiece (Col. 42, lines 48-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the inspection system disclosed by Aloni and Steffan to have included the method of manufacturing an electronic device, as taught by Nara, in order to prevent the generation of a large quantity of failure and raise productivity (Col. 37, lines 62-65).

5. Claims 5, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aloni et al. (6,360,005) in view of Steffan et al. (5,999,003) as applied to claims 4 and 8 above, and further in view of Tanaka (5,995,087).

Regarding claim 5, Aloni and Steffan do not expressly state using a pointing device to drag and drop the image from the sorting display area into a defect-classification display area. However, this particular method user-manipulated movement is well known in the art. For example, Tanaka teaches that it is known to use a drag and drop operation as a user-manipulated moving unit (Col. 6, lines 33-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the user-manipulated moving unit disclosed by Aloni to expressly state a pointing device to point to, select, and drag-and-drop, as taught by Tanaka, because it is an essential device for user interaction routinely implemented in computer graphic manipulation.

Regarding claim 6, the arguments analogous to those presented above for claim 5 are applicable to claim 6. Note that Tanaka discloses using a mouse (Col. 6, lines 33-39).

Art Unit: 2623

Regarding claims 9 and 10, the arguments analogous to those presented above for claims 5 and 6 are applicable to claims 9 and 10.

***Response to Arguments***

6. Applicant's arguments filed with the amendment have been fully considered but they are not persuasive.

Summary of Applicant's Argument:

The claimed invention includes a display screen with an unsorted area with images of unclassified defects and a number of classification areas into which the unclassified defects can be manually moved by the user. Another feature is that moved/classified defect images are continued to be displayed in the classification areas.

Aloni does not disclose displaying a plurality of classified defect images in second display areas and does not disclose classifying the images by moving them from the first area to selected second areas. Steffan does not disclose displaying a plurality of classified defect images in second display areas. It is further argued that even though the applied art discloses a 2<sup>nd</sup> screen which displays file names of a defect moved from the first screen it does not disclose the 2<sup>nd</sup> screen which displays a defective picture. Therefore, a user cannot classify defects and confirm the correctness of his criterion at the same time.

The feature of the claimed invention includes a 1<sup>st</sup> screen displaying the defective picture before classification, 2<sup>nd</sup> screen which displays a defective picture on a screen per every classification category, and a drag-and-drop function allowing the user to move a defective

Art Unit: 2623

picture on the 1<sup>st</sup> screen to the 2<sup>nd</sup> screen while the classified defective picture on the 2<sup>nd</sup> screen is displayed.

Examiner's Response:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., moved/classified defect images are *continued* to be displayed, 2<sup>nd</sup> screen which displays a defective picture on a screen per every classification category, allowing the user to move a defective picture on the 1<sup>st</sup> screen to the 2<sup>nd</sup> screen which the classified defective picture on the 2<sup>nd</sup> screen is displayed) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Aloni discloses providing a display which allows the user to manually classify unclassified defects (Col. 15, lines 22-27). While Aloni does not expressly state providing an unsorted area and a number of classification areas, Steffan teaches that it is known to provide a first area of unclassified defects along with a plurality of second areas for classified defects (Figure 2b).

Aloni discloses a visual classification of semiconductor manufacturing defects by a user viewing a display screen. Aloni discloses displaying representations of individual defects to an operator, thereby allowing the operator to perform visual defect classification (Col. 15, lines 22-27). Aloni further discloses displaying the classified defect images in order to allow the operator to review and amend the defect classification (Col. 27, lines 10-13), thereby allowing the operator to confirm the correctness of his criterion. Aloni does not expressly state providing the



Art Unit: 2623

classification and the reviewing at the same time. However, Steffan teaches that it is known to provide a first area for displaying a plurality of detected images (206, 208, 210, 212) and a plurality of bins (214, 216, 218, 220) or "second areas" for classifying the detected images. Therefore, it would have been obvious for one to have modified the displaying of the defect images allowing the operator to review and correct the criterion as disclosed by Aloni to include displaying the unclassified and the classified at the same time as taught by Steffan because it is a visual aid to the operator for classification.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2623

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072.

The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

UC

VK

8/22/03

MEHRDAD DASTOURI  
PRIMARY EXAMINER

*Mehrdad Dastouri*